Patent Claims

1. A regulating vacuum valve comprising a valve body (1) with a through-channel (2), a closure member (6) which is adjustable over a control path between a closed position of the regulating vacuum valve in which it contacts a valve seat (7) and closes the through-channel and an open position of the regulating vacuum valve in which it is raised from the valve seat, an adjusting device which has a drive unit (9) for adjusting the closure member over the control path, a carrying unit (13) which carries the closure member and is supported so as to be displaceable relative to the closure member, wherein the carrying unit (13) is arranged in the through-channel (2) and is secured to the valve body, and wherein the carrying unit has a chamber (28) which is sealed relative to the through-channel and in which the adjusting device or at least a portion thereof is arranged.

2. The regulating vacuum valve according to claim 1, wherein the chamber (28) of the carrying unit (13) communicates with the atmosphere and is at atmospheric pressure.

3. The regulating vacuum valve according to claim 2, wherein the carrying unit comprises a carrier body (25) and at least one fastening web (26) for fastening the carrier body to the valve body, and a through-hole (29) is arranged in at least one fastening web and communicates with the atmosphere and is at atmospheric pressure on one side and is connected to the chamber (28) of the carrying unit on the other side.

4. The regulating vacuum valve according to claim 3, wherein there are at least two fastening webs (26, 27) which engage at different sides of the carrier body (25) and extend in each instance between the carrier body and the valve body.

5. The regulating vacuum valve according to claim 3, wherein the carrier body (25) is arranged centrally in the through-channel (2).

6. The regulating vacuum valve according to claim 1, wherein there is arranged at the closure member (6) at least one valve rod (18) with which an actuating part (14, 46, 48, 49) of the adjusting device cooperates.

7. The regulating vacuum valve according to claim 6, wherein the valve rod (18) extends in axial direction of the through-channel (2).

8. The regulating vacuum valve according to claim 6, wherein the valve rod (18) is supported in or at the carrying unit so as to be displaceable.

9. The regulating vacuum valve according to claim 8, wherein the closure member (6) is fixed with respect to rotation around the axis of the valve rod relative to the carrying unit (13).

10. The regulating vacuum valve according to claim 8, wherein the carrying unit (13) has a guide connection piece (21) extending in direction of the closure member, the valve rod (18) being supported in or at the guide connection piece (21) so as to be displaceable.

11. The regulating vacuum valve according to claim 10, wherein a sealing ring (22) is provided for sealing the chamber (28) in the carrying unit (13) relative to the through-channel (2) and seals the valve rod relative to the guide connection piece.

12. The regulating vacuum valve according to claim 10, wherein bellows (32) are provided for sealing the chamber (28) in the carrying unit (13) relative to the through-channel (2) of the valve body (1) and are arranged at the carrying unit (13) on one side and at the closure member or at the valve rod on the other side.

13. The regulating vacuum valve according to claim 6, wherein the valve rod (18) has a bore hole (19) which proceeds from its free end and extends in axial direction, which bore hole (19) is a pocket hole and is provided with a female thread with which a male thread of the actuating part which can be set in rotation by the drive unit (9) engages.

14. The regulating vacuum valve according to claim 13, wherein the actuating part is a spindle (14) which is arranged in the chamber (28) of the carrying unit (13) and is supported at the carrying unit (13) so as to be rotatable and can be driven via a transmission part (10, 36) by the drive unit arranged outside the valve body.

15. The regulating vacuum valve according to claim 13, wherein the actuating part is an output shaft (39) of the drive unit (9) arranged inside the chamber (28) of the carrying unit (13).

16. The regulating vacuum valve according to claim 1, wherein the valve seat (7) is arranged at the valve body (1).

17. The regulating vacuum valve according to claim 1, wherein the valve seat (7) is flanged to the wall (35) of a vacuum chamber (5) to which the valve body (1) is flanged.

18. The regulating vacuum valve according to claim 1, wherein the closure

member (6) has an elastic sealing ring which contacts a sealing surface of the valve seat in the closed position of the vacuum regulating valve.

19. The regulating vacuum valve according to claim 1, wherein the closure member (6) is arranged inside an enlarged portion of the through-channel (2).

20. The regulating vacuum valve according to claim 1, wherein the closure member (6) is arranged outside the through-channel (2) of the valve body (1).

21. The regulating vacuum valve according to claim 1, wherein the closure member is plate-shaped and is displaceable vertical to its plane.

22. The regulating vacuum valve according to claim 1, wherein the through-channel (2) penetrates the valve body (1) in a straight line.